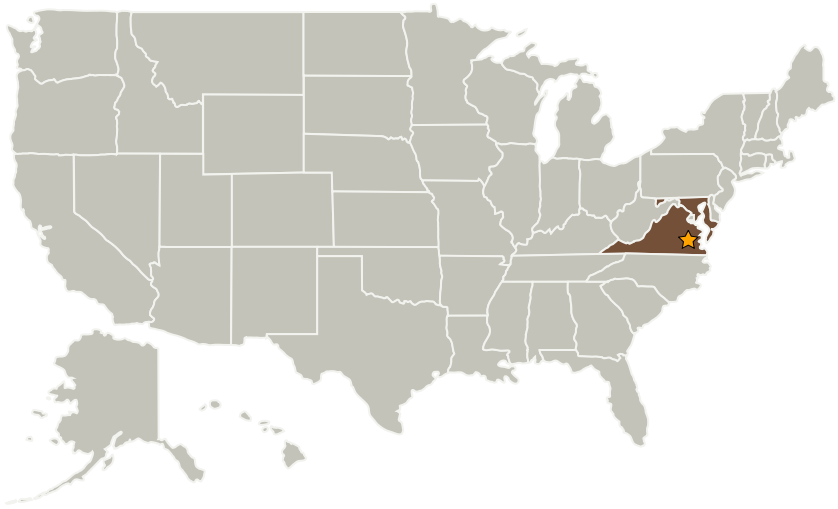
Avionics for Scaled Remotely Operated Vehicles, Phase II

Completed Technology Project (2009 - 2011)

Project Introduction

The use of UAS's in the military and the commercial field has grown tremendously over the last few years and is set to explode over next several. An open-architecture avionics system that utilizes standard communication interfaces and allows for rapid reconfiguration would be an attractive addition to the UAS market. CTSi is proposing development of such a product in phase II that provides a full Avionics Suite. This would include an avionics platform, a closed loop test environment and development tool kit and provide a turnkey solution for NASA AirSTAR program. The system will include: 1) powerful programmability, ease of integration of new sensors and actuators, and ease of expansion to new platforms and applications 2) interfaces for sensor inputs in Analog, PWM and serial stream formats 3) A high performance data link for data telemetry and control 4) reliable ground based safety piloting and augmented safety pilot control modes 5) Operations in an EMI sensitive environment 6) An autopilot fail-safe mode with basic aircraft recovery and Return-To-Base (RTB) capability and custom control law integration 7) support for a variety of GPS/INS and other aircraft sensors

Primary U.S. Work Locations and Key Partners



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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Langley Research Center (LaRC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

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Organizations Performing Work	Role	Type	Location
★Langley Research Center(LaRC)	Lead Organization	NASA Center	Hampton, Virginia
Coherent Technical Services, Inc.	Supporting Organization	Industry	Lexington Park, Maryland

Primary U.S. Work Locations	
Maryland	Virginia

Project Transitions

November 2009: Project Start

December 2011: Closed out

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Technology Areas

Primary:

- TX16 Air Traffic Management and Range Tracking Systems
  - TX16.4 Architectures and Infrastructure